

Amendments to the Specification

Page 11, the first full paragraph, lines 8 to 19, replace the paragraph with:

FIG. 2 shows a structure of a disk array device, which is described as an example of the first storage device 10 and the second ~~and~~storage device 20. Instead of the disk array device, the first and second storage devices 10 and 20 may be any appropriate devices, such as, for example, semiconductor storage devices. For example, the ~~disk array~~first storage device 10 is equipped with various components including a channel control section 201, a remote communications interface 202, disk control sections 203, a shared memory 204, a cache memory 205, a switching control section 206 that is composed of cross bus switches that communicatively connect the components described above, a management terminal 207, and memory devices 208. The first and second storage devices 10 and 20 may have the same structure.

Pages 23-24, page 23, line 5 to page 24, line 2, replace the paragraph with:

Referring to FIG. 11, an example of a process flow in forming pairs will be described. In this example, it is assumed that the first storage device 10 is equipped with a third logical volume and a fifth logical volume, and the second storage device 20 is equipped with a fourth logical volume and a sixth logical volume. The

information processing device 11 transmits a command to the first storage device 10 and the second storage device 20 for forming a pair of the third logical volume as being a primary volume 1101 and the fourth logical volume as being an auxiliary volume 1102, and a pair of the fifth logical volume as being a primary journal 1103 and the sixth logical volume as being an auxiliary journal 1104 (S1101, S1102). The pair management sections 704 of the first and second storage devices 10 and 20 store information indicating the states of the pairs in the pair management tables 1001 of the respective storage devices 10 and 20. The copy forming section 705 of the second storage device 20 transmits to the first storage device 10 a read request to read data in the primary volume; and upon receiving from the first storage device 10 a copy of the data in the primary volume, the second storage device 20 writes the data in the auxiliary volume (S1103). By this operation, the data in the primary volume and the data in the auxiliary volume can be matched with each other. A processing that brings the primary volume in conformity with the auxiliary volume by a pair forming instruction is called an "initial copy" processing.

Page 24, the first full paragraph, lines 3 to 17, replace the paragraph with:

Also, the journal storage section 707 of the first storage device 10 starts a processing to obtain a copy of the data written in the primary volume and its positional information in the primary journal. The correlation between the primary

volume and the primary journal is described hereunder with reference to FIG. 12.

The primary journal is composed of a meta data region 1201 and a journal data region 1202. The journal storage section 707 of the first storage device 10 stores a copy of the data written in the primary volume (hereinafter referred to as "journal data") in the journal data region 1202. Also, the journal storage section 707 of the first storage device 10 stores in the meta data region 1201 the time when data 1203 is updated in the primary volume, LBA(s) 1204 of the data 1203, LBA(s) ~~4206~~1205 of the journal data 1206 in the corresponding journal data region, and the data length of the updated data. Also, the auxiliary journal is composed of a meta data region 1201 and a journal data region 1202 like the primary journal.

Page 47, the second full paragraph, lines 14 to 21, replace the paragraph with:

FIG. 33 indicates processings performed by the storage device (10, 20, 25) as it receives the command interface 2601, and its basic process flow is generally the same as the process flow indicated in FIG. 31 (for example, S3301 is similar to S3101, S3302 is similar to S3102, S3307 is similar to S3106, S3308 is similar to S3107, S3310 is similar to S3109, S3313 is similar to S3112 and S3314 is similar to S3313). The process flow indicated in FIG. 33 differs from the process flow in FIG. 31 in that the storage device (10, 20, 25) that has received the data of the command

interface 2601 needs to judge as to whether the storage device itself is in a transfer path or whether the storage device should execute a command.

Pages 48-49, page 48, line 17 to page 49, line 6, replace the paragraph with:

FIG. 34 shows a flowchart of the edited data obtaining process performed when the transfer destination address is not deleted. Some of the steps in FIG. 34 are similar to steps in FIG. 32 (for example, S3401 is similar to S3201, S3402 is similar to S3202, S3409 is similar to S3206, S3410 is similar to S3207, S3411 is similar to S3208 and S3412 is similar to S3209). The edited data obtaining process in FIG. 34 differs from the process indicated in FIG. 31 in that the storage device that has received an edited data obtaining request needs to judge whether the storage device (10, 20, 25) itself is in a transfer path or whether the storage device (10, 20, 25) itself has executed the command. The storage device (10, 20, 25) judges by the same method indicated in FIG. 33 (S3403); if the storage device (10, 20, 25) is in a transfer path, the storage device (10, 20, 25) sends the edited data obtaining request to the next transfer destination (S3405 - S3408); and if the storage device 10, 20, 25) has executed the command, the storage device 10, 20, 25) obtains edited data of an identification number set in the edited data obtaining request (S3411). The other processings are the same as those indicated in FIG. 32.

Page 50, the first full paragraph, lines 11 to 15, replace the paragraph with:

FIG. 37 shows a flowchart of processings in which the storage device (which may be 10, 20 or 25) determines the shortest path and transfers data of a command interface, which differs from the processing indicated in FIG. 31 only in that the storage device (10, 20, 25) judges the shortest transfer path (S3701 is similar to S3101, S3702 is similar to S3102, S3703 is similar to S3103, S3710 is similar to S3107, S3712 is similar to S3109, S3713 is similar to S3110, S3714 is similar to S3111, S3715 is similar to S3112 and S3716 is similar to S3113).

Pages 50-51, page 50, line 16 to page 51, line 10, replace the paragraph with:

The storage device (10, 20, 25) obtains the number of transfer destination addresses set in the transfer destination parameter, and sets the obtained number as a variable "N" (S3704). Then, the storage device (10, 20, 25) obtains the N-th transfer destination address (S3705), and confirms whether the obtained transfer destination address is stored in the connection information management table 3601 (S3706). When the obtained transfer destination address is not stored in the connection information management table 3601, the number N is reduced by 1 (3707), and the storage device (10, 20, 25) repeats the processings to obtain the N-th transfer destination address and to confirm whether the obtained transfer

destination address is stored in the connection information management table 3601 (S3705, S3706). As a result, the storage device (10, 20, 25) can obtain the shortest transfer path. Then, the storage device (10, 20, 25) deletes the transfer destination addresses before the N-th transfer destination address from the data of the command interface 2601 (S3708), and sends the data to the N-th transfer destination address (S3709). The other processings are the same as those indicated in FIG. 31. Also, the edited data obtaining process (S3711) is the same as the process in FIG. 32.